

## XXVI. NEUROPTEROID INSECTS.

By NATHAN BANKS.

(Plate xxv.)

The small collection of Neuropteroid insects of the Abor Expedition and from Tenasserim contains a number of new species; nearly all the Psocidae are new, and many others, but in some forms especially Ephemeredae the specimens are not in condition for description.

The genera of the Psocidae are similar to the Ceylon fauna, which is quite well known.

The species I have been able to identify are those rather widely distributed in India. It is rather notable that the Myrmeleonid is new; but I have examined the types of all the Indian species.

Most of the species are represented by few specimens, so it is evident that this is only a very small fraction of the Neuropteroid fauna of the region.

### CORRODENTIA.

#### PSOCIDAE.

##### *Caecilius ceylonicus*, Enderlein.

From Rotung, 25 December, 1911, 1300 ft.

One specimen has black antennae and dark spot behind eye; the venation agrees with the figure of Enderlein.

##### *Epipsocus conspersus*, n. sp.

(Pl. xxv, fig. 3.)

Pale yellowish; basal joints of antennae with red-brown marks, an oblique streak each side on face below antennae, a transverse row of spots above antennae and below eyes, and two spots on the vertex between eyes red-brown. A prominent red-brown streak along lower edge of each pleura, just at base of coxae. Wings hyaline; fore-wings with numerous dark dots, and dots at ends of veins, a cloud along median, and one partly above and partly within the areola postica. Fore-wings not very slender, outer margin rather oblique, apical veins sinuous, areola postica long and its upper edge sinuous, stigma concave on basal part from below, widened toward tip and tapering to the point.

Expanse 8 mm.

From Dibrugarh, N. E. Assam, 17-21 November, 1911.

**Epipsocus costalis, n. sp.**

(Pl. xxv, fig. 1.)

Pale yellowish, a red-brown band between eyes through base of antennae, latter pale yellowish, with first and second joint marked with red-brown, third joint as long as width of wing; a red-brown spot on the lower side of the prothorax and back along each pleura is a red-brown streak, continued along the sides of the abdomen; legs wholly pale, very slender, hind-tibia as long as width of fore-wing. Wings long and slender, stigma very slender, veins brownish yellow, a long narrow, brown streak along costa from base of stigma to tip of wing, and the ends of veins along the hind border each with a black spot; hind wings with black spot at end of the median vein.

Expanse 10 mm.

From Rotung, 24 December, 1911 (*Kempf*).**Kolbea punctata, n. sp.**

(Pl. xxv, fig. 5.)

Pale yellowish, antennae wholly yellowish, densely hairy, a large dark brown spot in middle of each pleura, and notum of thorax more or less darkened; abdomen pale; legs pale, the claws black. Wings hyaline, broad, stigma angulate behind, basal part concave beneath, apical veins sinuous, radial sector and median vein united only for a short distance, areola postica very high, triangular, tips of all veins black, stigma milky whitish, with a dark spot, which may be expanded as a streak across wing toward the areola postica.

Expanse 12 mm.

From Upper Rotung, 4 January, 1912 (*Kempf*).**Psocus nirvanus, n. sp.**

(Pl. xxv, fig. 7.)

Body pale yellowish; clypeus brownish, nasus faintly lineate with dark; first and second joints of antennae pale, rest black, third hardly as long as the greatest width of the fore-wings, with very short hairs; femora yellowish, rest of legs black. Wings hyaline; veins black, most of those in the apical portion very plainly margined with black; a cloud just beyond the discal cell, two others between the radial sector and median vein toward tip of wing, one below the stigma, and one in the basal cubital cell (sometimes lacking), stigma yellowish, blackish at extreme base and along the outer margin; hind wings wholly hyaline, veins black.

In fore-wings the median vein is united to the radial sector usually only at one point, but in some cases for a short distance; the discal cell is plainly narrower below than above; the stigma is

angular behind, the outer side a little shorter than the inner side. The forking of the radial sector is hyaline, also the cross vein from the cell to the hind margin, and the lower side of the cell up a little way on outer margin, and a little away outward along the median vein.

Expanse 14 mm.

From Yembung, 15 January, 1912, 1100 ft. (Kemp).

**Seopsis** sp.

One rubbed specimen, head dull red brown; probably new, from Yembung, 17-19 February, 1912.

**PLECOPTESA.**

**PERLIDAE.**

**Leuctra indica**, Needham.

One from Upper Rotung, 4 January, 1912. The median ventral appendage is spatulate.

**Nemoura** sp.

One from Yembung, 1100 ft., 17 January, 1912; probably new as no species are recorded from India.

**Chloroperla (Isopteryx)** sp.

One from Yembung, 13-17 January, 1912.

**Cryptoperla divergens**, n. sp.

(Pl. xxv, figs. 6, 8.)

Pale yellowish, or faintly brownish, no marks on head, except dark at base of antennae; sides of pronotum darker, and anterior tibia dark. Wings faintly yellowish, as also the venation. Head broad, with a high ridge connecting antennae; ocelli prominent, about four diameters apart, much closer to the eyes, latter faintly hairy. Pronotum fully twice as broad as long, barely broader behind, corners nearly square, strongly irregularly rugose on the sides; setae widely separated, joints short; ventral plate of female large and broad as in the figure. Wings elongate, about seven cross-veins beyond end of the subcosta, three branches to radial sector beyond anastomosis, last one close to tip, about five median cross-veins, and seven cubital cross-veins, lower branch of median forked about opposite to anastomosis, two veins between it and the cubitus.

Expanse 20 mm.

From Komsing, 2 March, 1912 (Kemp).

I place this in *Cryptoperla* since the labial palpi are very minute and the eyes are faintly hairy; it differs from typical *Neoperla* in that the ocelli are far apart; Needham fails to mention in his description whether the ocelli of *Cryptoperla* were far apart or as in *Neoperla*. His species has a larger ventral plate than mine, and the ocelli were not as distinct.

#### ANISOPTERA.

##### EPHEMERIDAE.

###### *Ephemera* sp.

Subimago from Upper Rotung, 11 January, 1912, 2000 ft., and Yembung, 13-17 January, 1912, 1100 ft.

The subimago of three Indian species has been described, but this does not agree with any of them; three other species are known from India in the adult stage.

###### *Thraulus* sp.

Subimago from below Damda, 1 February, 1912, 1300 ft., and below Dosing, 27 January, 1912, 1400 ft.

###### *Baetis* sp.

One female from below Dosing, 29 January, 1912, 1400 ft.

###### *Cleon* sp.

Two from Dibrugarh, N. E. Assam, 17-21 November, 1911.

###### *Chirotonetes* sp.

Subimago from below Damda, 1 February, 1912, 1300 ft.

#### NEUROPTERA.

##### HEMEROBIIDAE.

###### *Berotha insolita*, Walk.

One from Misty Hollow, W. side Dawna Hills, 2200 ft., 23-30 November, 1911.

#### CHRYSOPIDAE.

##### *Ankylopteryx octopunctata*, Fabr.

From Kobo, 400 ft., 7 December, 1911, and Rotung, 1400 ft., 28 December, 1911.

**Chrysopa alcestris, Bks.**

From Upper Rotung, 7 January, 1912, 2000 ft.

**Chrysopa virgestes, Bks.**

From Dibrugarh, N. E. Assam, 17-21 November, 1911.

**Formicaleon bivittatum, n. sp.**

(Pl. xxv, figs. 2, 4.)

Face pale; a large dark interantennal band from eye to eye extending above and below antennae, above this is a narrow dark band with a stripe each side behind to the pronotum, and two spots in middle of vertex reaching toward these stripes; antennae annulate with brown, long and slender; pronotum longer than broad, with a broad dark stripe on each side, and the posterior corners dark; thorax dark with median pale stripe, extending a little way back on the abdomen, rest of abdomen brownish; pleura with two dark stripes under each fore-wing; legs pale, a dark band at extreme tip of tibia, and tibiae 1 and 2 with dark spot on outer side near base, legs slender, with long black bristles, spurs long, not much curved, about as long as four joints, last joint much longer than the first one. Wings hyaline; veins interruptedly dark and pale; stigma reddish, the forkings of veins near the outer margin and apex of wing are clouded with dark. Hind wings much longer and narrower than fore-wings, sharply acute at tip; fore-wings very broad at stigma; five cross-veins before radial sector, about 16 branches to radial sector, and with five cross-veins to cubital fork, a line bending up from end of anal and running through middle of cubital area; in hind wings the anal ends before the origin of the cubital fork. The wings are very similar to *F. verendus* but the pronotum and legs are more slender.

Expanse 70-80 mm.

From between Thingannyinaung and Myawadi, L. Burma,  
24-28 November, 1911, 900 ft. (F. H. Gravely).**TRICHOPTERA.****HYDROPSYCHIDAE.*****Stenopsyche griseipennis*, McLach.**One from Siyom River, below Damda, 1300 ft., 31 January,  
1912.***Philopotamus* sp.**

From Yembung, 1100 ft., 17 January, 1912; in alcohol, a uniform dark-winged species.

**Hydropsyche** sp.

One female from Janakmukh, 600 ft., 18 December, 1911.  
As large as *H. asiatica*, but differs slightly in venation.

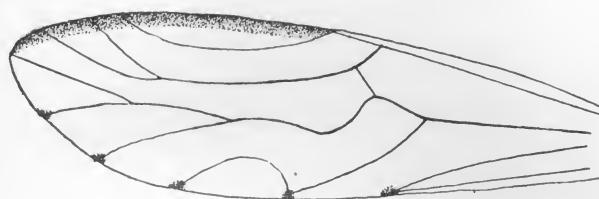
**Hydropsychodes** sp.

One from Egar stream between Renging and Rotung, 9 January, 1912. Probably undescribed.

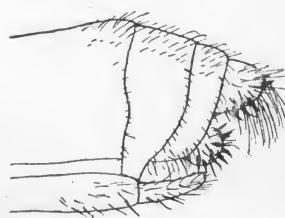
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#### EXPLANATION OF PLATE XXV.

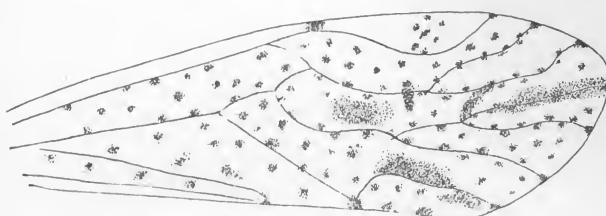
FIG. 1.—*Epipsocus costalis*, fore-wing.  
,, 2.—*Formicaleon bivittatum*, tip of abdomen.  
,, 3.—*Epipsocus conspersus*, fore-wing.  
,, 4.—*Formicaleon bivittatum*, pronotum.  
,, 5.—*Kolbea punctata*, fore-wing.  
,, 6.—*Cryptoperla divergens*, head.  
,, 7.—*Psocus nirvanus*, fore-wing.  
,, 8.—*Cryptoperla divergens*, ventral plate.



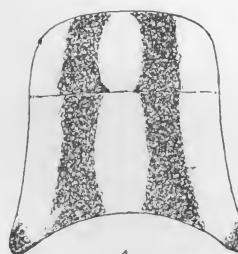
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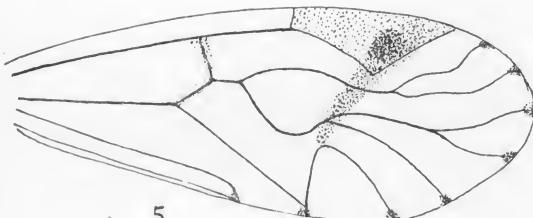
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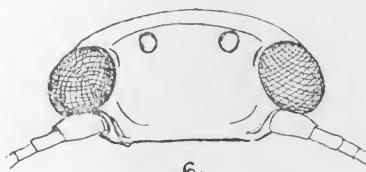
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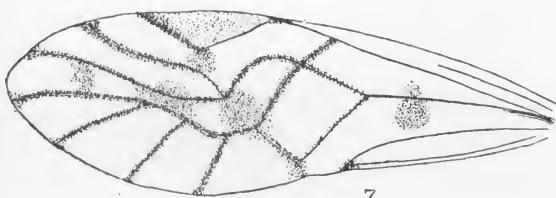
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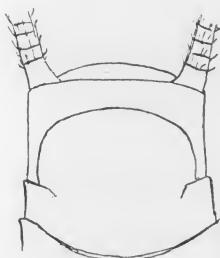
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6.



7.



8.